REMARKS

Claims 1-26 and 28-34 are pending in the present application. The disposition of claims on page 1 of the December 8 Office Action does not indicate that any claims are withdrawn from consideration. A Restriction Requirement was mailed in the present application on September 10, 2008. Applicants responded by electing Group I including Claims 1-13 and 29. Applicants assume that at least Claims 1, 3-13, 29 and 33-34 are presently under active persecution.

Applicants request the Office provide a complete and accurate listing of those claims which the Office believes are withdrawn from consideration in the next Communication from the Office.

Applicants filed a pre-Appeal Brief in the present application on August 24, 2009 contesting the rejection of the claims in view of art including CA‘062 (CA 2,477,062). The Office decided to reopen prosecution in response to Applicants’ pre-Appeal Brief. The Office now rejects the claims as obvious over CA’062 in combination with Guennouni (U.S. 7,504,468) and separately over Davidson (U.S. 5,605,628) alone. Applicants traverse the rejections because the cited art fails to disclose or suggest at least one feature of the presently claimed invention and further for the reason that the Office’s rejection of the claims is factually unsupportable.

The presently claimed invention is drawn to a membrane having a ceramic coating. The ceramic coating includes a first fraction and a second fraction. The second fraction is described in the following manner in present Claim 1:

> … the second fraction comprises a silicon network bonded (i) via oxygen atoms to said oxides of said ceramic coating, (ii) via organic radicals to said polymeric non-woven and (iii) **via at least one carbon atom to a further silicon atom**, …

Applicants submit that the cited art fails to disclose or suggest at least the above emphasized feature of the presently claimed invention.

The Office admits that CA'062 is deficient with respect to this feature of the claimed invention (see lines 10-13 of page 3 of the December 8 Office Action) but also appears to take the position that CA'062 suggests this feature of the present claims "because the treatment to achieve the particular silicon network is the same [as described in the present specification] as in CA'062" (see lines 15-16 of page 4 of the December 8 Office Action). The Office bases this erroneous conclusion on the following logic:

> because CA'062 also teaches the application of adhesive promoter or mixtures including glycidyloxytrimethoxyoxysilane (GLYMO), or (MEMO), as discussed in pages 13-14 above, and further teaches heating suspension on the substrate by irradiation (citation omitted), the skilled artisan at the time this invention was made can predict that by using the same adhesive promoters or an adhesive promoter that is radiation sensitive, such as, MEMO, the reaction can produce the same type of bonding (to the support and to the oxide) as claimed in the current invention,...

See lines 8-10 of page 4 of the December 8 Office Action.

Applicants submit that the Office's characterization of CA'062 is not correct. Applicants further submit that this basis for asserting that CA'062 suggests a silicon network bonded via at least one carbon atom to a further silicon atom as presently claimed, is not supportable as a matter of fact.

The Office cites to page 13 of the present specification as evidence that the silicon network of the present claims may be formed by UV irradiation of certain adhesion promoter mixtures (see the first full paragraph on page 4 of the December 8 Office Action). The Office then appears to assert that CA'062 discloses similar irradiation of mixtures of adhesion promoters. This is not correct. Nowhere in the disclosure of the CA'062 reference cited by the Office is UV irradiation of a mixture of adhesion promoters disclosed or suggested. At best, the CA'062 reference describes heating a substrate that is coated with one or more compositions. The heating may be carried out with infrared radiation:

> The assembly may be heated according to the present invention by means of heated air, hot air, **infrared radiation** or by other heating methods according to the prior art.

See page 16, lines 25-27 of CA'062.

UV irradiation and infrared radiation are two entirely different things. Applicants submit that those of ordinary skill in the art readily recognize that UV irradiation of, for example a polymeric network, provides a substantially different product than the product obtained by subjecting a polymeric network to heating (e.g., heating by infrared radiation). UV irradiation may lead to the formation of radicals which have a substantially different decomposition path in comparison to decomposition or reaction initiated by infrared radiation.

The Office's assertion of obviousness and the Office's characterization of the disclosure of CA'062 is entirely without merit. Applicants submit that withdrawal of the rejection is appropriate for the reason that the art of the December 8 Office Action fails to disclose or suggest at least that feature of the present claims in which the silicon network is bonded via at least one carbon atom to a further silicon atom.

The same arguments apply to the Office's citation to Guennouni. The Office admits that the Guennouni art is "cumulative" to the CA'062 art. Assuming the Office is correct in this regard, the Guennouni patent does not have any disclosure that is not already disclosed in CA'062. Thus, the rejection of the claims as obvious in view of Guennouni is likewise not supportable and should be withdrawn.

The rejection of the claims in view of CA'062 is further not supportable for the reason that the Office failed to show how the cited art discloses the feature of the present claims whereby a silicon network is bonded "via organic radicals to said polymeric non-woven". The Office asserts that this feature of the present claims is disclosed on page 15, lines 29-36 of CA'062. In particular, the Office asserts that the disclosure of the hydrolysis and

condensation of Si-OR groups is evidence that the cited art discloses this feature of the present claims.

Applicants submit that the Office's assertions in this respect are not correct. The hydrolysis and condensation of Si-OR groups disclosed in the paragraph bridging pages 15 and 16 is carried out *before* the solution composition is contacted with a polymeric substrate. The condensation and hydrolysis cannot form any bond with the polymeric network because it is not present to react with the Si-containing composition.

The Office makes the same error with respect to the rejection of the claims in view of the Davidson patent. The Office characterizes the Davidson disclosure as follows on page 7 of the December 8, Office Action:

> Davidson fails to disclose polymeric non-woven and bonding of the silicon of the network via organic radicals to the non-woven.

The Office relies on the disclosure of the paragraph bridging pages 15 and 16 of CA'062 as evidence that the structure recited in the present claims would be inherent and/or obvious to the composite inorganic membrane of the Davidson patent. As already pointed out above, CA'062 describes a composition *before* it is contacted with a substrate. Thus, there can be no bonding of a silicon network to a polymeric non-woven as recited in the present claims.

Applicants thus submit that withdrawal of the rejection in view Davidson is appropriate.

With respect to the rejection of the claims for obviousness-type double patenting in view of co-pending Applications 10/524,143 and 10/524,669, the Office relies on CA'062 as evidence that a silicon network bonded via at least one carbon chain to a further silicon atom is a feature that would be obvious to the invention of the claims of the co-pending applications. As explained above in detail, the Office's assertion that CA'062 discloses this

feature of the present claims is not correct. Applicants thus submit that withdrawal of the rejection for obviousness-type double patenting is appropriate.

For the reasons discussed above in detail, Applicants submit that withdrawal of the rejection and the allowance of all now-pending claims is appropriate. Applicants respectfully request the mailing of a Notice of Allowance.

Respectfully submitted,

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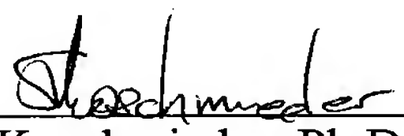

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